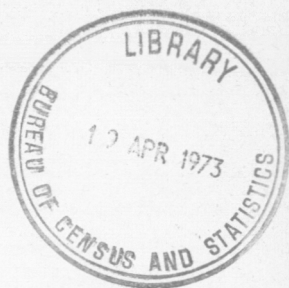


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Statistics of Western Australia

NON-RURAL PRIMARY INDUSTRIES 1970-71

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DEPUTY COMMONWEALTH STATISTICIAN
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By Authority. WILLIAM C. BROWN, Government Printer
1973

ROUNDING OF FIGURES

Many of the figures appearing in the tables have been rounded to thousands without making those adjustments which would be needed to make the rounded figures add to the rounded total. It is for this reason that figures do not always add to the totals shown in the tables.

NON-RURAL PRIMARY INDUSTRIES

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NOTES ON STATISTICS OF MINING

Sources of Information

The statistics relating to mining, appearing in Tables 1 and 2 of this publication are derived from annual mining census returns supplied by enterprises engaged in mining in Western Australia. Details of the quantity, value and metallic content of minerals produced, appearing in Tables 3 and 4 have been compiled by combining publishable data from the census with additional information obtained from the Department of Mines, the Department of National Development and other sources.

Commencing with 1968-69 the mining census has been conducted on an integrated basis with other economic censuses (manufacturing, electricity, gas, retail trade and wholesale trade) and this has entailed major changes in its scope and its structure. Although major characteristics of the mining census as now conducted are outlined below, reference should be made to Chapter 31 of *Official Year Book of the Commonwealth of Australia*, No. 56—1970 or to pages 552-63 of the *Western Australian Year Book*, No. 10—1971 where a more detailed description of the mining and other integrated economic censuses is given.

Period Covered

In 1968 and earlier years, the annual mining and quarrying census related to years ended 31 December. However, commencing with 1968-69, the mining census was changed to a year ended 30 June to conform with the period covered by other integrated economic censuses in Australia.

The change in the census period from year ended 31 December to 30 June means that the 1968-69 census figures overlap the 1968 census results in regard to the period July to December 1968.

Definitions

For reasons of confidentiality only key items of data are presented in Tables 1 and 2 of this publication for broad industry groups and selected classes. The items of data are as follows:

Establishment. This refers in general to a separate physical location predominantly engaged in mining.

Number of Establishments. The number of establishments which operated during the year. These relate to mining establishments as such and do not include the numbers of separately-located administrative offices and ancillary units.

Persons Employed. Working proprietors at end of June and employees on the pay-roll of the last pay-period in June including those working at separately-located administrative offices and ancillary units in the State.

Persons employed in each State (and their wages and salaries) relate to those employed at establishments, administrative offices or ancillary units located in the State, even though the administrative offices or ancillary units may have served establishments located in another State.

Wages and Salaries. The wages and salaries of all employees of the establishment, including those working at separately-located administrative offices and ancillary units in the State. Drawings of working proprietors are not included.

Sales, Transfers Out and Other Operating Revenue. Sales of minerals and other goods whether produced by the establishment or not, plus transfers out of minerals and other goods to other establishments of the same enterprise, plus all other operating revenue from outside the enterprise, such as commission, repair and service revenue. This excludes rents, leasing revenue, interest, royalties and receipts from the sale of fixed tangible assets.

Stocks at 30 June. All the stocks of materials, fuels, etc. and mine products and work-in-progress of the establishment whether located at the establishment or elsewhere.

Purchases, Transfers In and Selected Expenses. Purchases of electricity, fuels, stores and other materials, plus transfers in of goods from other establishments of the same enterprise, plus charges for processing and other commission work and payments to mining contractors, repair and maintenance expenses, outward freight and cartage, motor vehicle running expenses and sales commission payments.

Value Added. Sales, transfers out and other operating revenue, plus increase (or less decrease) in the value of stocks, less purchases, transfers in and selected expenses.

Principles for Measuring Output of Minerals

The quantities of individual minerals produced are recorded, in general, in the form in which the minerals are dispatched from the mine or from associated treatment works in the locality of the mine. Thus, for metallic minerals, the output is recorded as ore if no treatment is undertaken at or near the mine, and as concentrate if ore dressing operations are carried out in associated works in the locality of the mine. In addition to the basic quantity data, the content of metallic minerals (based on assay) are recorded. No allowance has been made for losses in smelting and refining and the quantities shown are therefore, in general, greater than the content actually recoverable.

The output of individual minerals is valued at the mine or at associated treatment works in the locality of the mine. This valuation is derived, in general, by valuing the quantity produced during the year at the unit selling value (including any subsidy), less any transport costs from the mine or associated treatment works at the point of sale.

It should be noted that issues of this publication prior to that for 1969-70 contained values of minerals at point of sale.

No. 1—Summary of Mining Operations by Industry Sub-Division (a)

Item	Unit	1968-69	1969-70	1970-71
METALLIC MINERALS				
Number of establishments	No.	77	72	71
Persons employed (b)—				
Males	No.	*6,620	*7,158	8,264
Females	No.	261	*308	548
Total	No.	*6,881	*7,466	8,812
Wages and salaries paid	\$'000	*23,749	*34,674	44,387
Sales, transfers out and other operating revenue	\$'000	*212,184	*327,808	462,087
Opening stocks (c)	\$'000	16,432	25,247	34,562
Closing stocks (d)	\$'000	23,993	33,381	38,880
Purchases, transfers in and selected expenses	\$'000	*80,908	*112,950	133,918
Value added	\$'000	*138,838	*222,992	332,488
FUEL MINERALS (e)				
Number of establishments	No.	4	4	5
Persons employed (b)—				
Males	No.	676	707	692
Females	No.	12	13	14
Total	No.	688	720	706
Wages and salaries paid	\$'000	2,760	2,903	3,247
Sales, transfers out and other operating revenue	\$'000	*40,022	*53,408	42,772
Opening stocks (c)	\$'000	2,358	2,414	1,624
Closing stocks (d)	\$'000	2,415	1,624	2,201
Purchases, transfers in and selected expenses	\$'000	*3,430	*3,031	2,587
Value added	\$'000	*36,649	*49,587	40,766
CONSTRUCTION MATERIALS				
Number of establishments	No.	45	*55	48
Persons employed (b)—				
Males	No.	428	424	570
Females	No.	48	50	60
Total	No.	476	474	630
Wages and salaries paid	\$'000	2,006	*2,229	3,023
Sales, transfers out and other operating revenue	\$'000	*11,501	*10,452	12,331
Opening stocks (c)	\$'000	672	1,977	1,413
Closing stocks (d)	\$'000	1,711	2,701	2,042
Purchases, transfers in and selected expenses	\$'000	4,796	5,428	5,637
Value added	\$'000	7,744	*5,748	7,326
OTHER NON-METALLIC MINERALS				
Number of establishments	No.	33	*34	35
Persons employed (b)—				
Males	No.	*339	410	506
Females	No.	16	15	32
Total	No.	*355	425	538
Wages and salaries paid	\$'000	*990	*1,691	2,937
Sales, transfers out and other operating revenue	\$'000	*2,897	5,990	9,914
Opening stocks (c)	\$'000	104	*599	1,387
Closing stocks (d)	\$'000	*225	1,387	2,099
Purchases, transfers in and selected expenses	\$'000	*1,733	*3,703	4,762
Value added	\$'000	*1,285	3,075	5,864
TOTAL MINING				
Number of establishments	No.	159	*165	159
Persons employed (b)—				
Males	No.	*8,063	*8,699	10,032
Females	No.	337	*386	654
Total	No.	*8,400	*9,085	10,686
Wages and salaries paid	\$'000	*29,505	*41,497	53,593
Sales, transfers out and other operating revenue	\$'000	*266,604	397,658	527,107
Opening stocks (c)	\$'000	*19,564	*30,237	38,985
Closing stocks (d)	\$'000	*28,343	*39,093	45,225
Purchases, transfers in and selected expenses	\$'000	*90,867	*125,112	146,904
Value added	\$'000	*184,516	*281,402	386,444

(a) Revised preliminary data for 1969-70 and provisional estimates for 1970-71. (b) At 30 June; includes working proprietors. (c) Stocks at 30 June of first year shown in column heading. (d) Stocks at 30 June of second year shown in column heading. (e) Comprises coal mining and crude petroleum including natural gas mining. * Revised.

No. 2—Summary of Mining Operations: Selected Classes (a)

Item	Unit	1968-69	1969-70	1970-71
GOLD				
Number of establishments	No.	37	33	29
Persons employed (b)—				
Males	No.	2,942	2,161	1,975
Females	No.	45	36	35
Total	No.	2,987	2,197	2,010
Wages and salaries paid	\$'000	10,126	8,750	7,725
Sales, transfers out and other operating revenue	\$'000	20,349	16,140	14,215
Opening stocks (c)	\$'000	4,095	3,878	3,564
Closing stocks (d)	\$'000	4,249	3,660	3,490
Purchases, transfers in and selected expenses	\$'000	6,310	5,228	4,412
Value added	\$'000	14,194	10,694	9,729
IRON ORE				
Number of establishments	No.	9	10	12
Persons employed (b)—				
Males	No.	2,075	2,405	3,466
Females	No.	105	155	374
Total	No.	2,180	2,560	3,840
Wages and salaries paid	\$'000	7,673	13,810	20,848
Sales, transfers out and other operating revenue	\$'000	*160,419	246,900	336,104
Opening stocks (c)	\$'000	8,119	14,783	19,976
Closing stocks (d)	\$'000	14,186	18,670	24,651
Purchases, transfers in and selected expenses	\$'000	63,788	90,400	102,830
Value added	\$'000	*102,698	160,387	237,949
MINERAL SANDS				
Number of establishments	No.	4	4	4
Persons employed (b)—				
Males	No.	378	418	476
Females	No.	47	45	49
Total	No.	425	463	525
Wages and salaries paid	\$'000	1,311	1,634	2,170
Sales, transfers out and other operating revenue	\$'000	7,287	8,553	13,302
Opening stocks (c)	\$'000	2,396	3,111	4,338
Closing stocks (d)	\$'000	3,111	4,338	3,509
Purchases, transfers in and selected expenses	\$'000	2,493	3,060	3,813
Value added	\$'000	*5,507	6,720	8,659
CRUSHED AND BROKEN STONE				
Number of establishments	No.	35	40	37
Persons employed (b)—				
Males	No.	393	395	551
Females	No.	45	48	58
Total	No.	438	443	609
Wages and salaries paid	\$'000	1,909	*2,146	2,958
Sales, transfers out and other operating revenue	\$'000	10,841	9,944	11,987
Opening stocks (c)	\$'000	661	1,955	1,391
Closing stocks (d)	\$'000	1,698	2,676	2,019
Purchases, transfers in and selected expenses	\$'000	4,523	5,215	5,540
Value added	\$'000	7,356	5,449	7,076

(a) Revised preliminary data for 1969-70 and provisional estimates for 1970-71.
 ing proprietors. (c) Stocks at 30 June of first year shown in column heading.

(b) At 30 June; includes work-
 (d) Stocks at 30 June of second

* Revised.

No. 3—Mineral Production
(See note *Sources of Information* on page 4.)

Item	1968-69		1969-70		1970-71 (a)	
	Quantity	Value (b)	Quantity	Value (b)	Quantity	Value (b)
	tons	\$'000	tons	\$'000	tons	\$'000
Asbestos	27	1	57	2
Barytes	1,084	16	419	6	520	6
Bauxite	2,075,306	(c)	2,860,679	(c)	4,140,243	(c)
Beryl	10	5	(c)	(c)	23	7
Clays—all kinds (d)	1,192,853	891	1,331,013	999	1,053,441	949
Coal	1,102,621	4,853	1,159,101	5,407	1,171,398	5,653
Construction materials—						
Building and monumental stone	184,643	406	173,773	357	106,828	281
Crushed and broken stone	3,747,597	9,724	3,428,213	10,324	4,186,028	10,144
Crushed and broken limestone	867,268	363	851,933	298	1,048,158	484
Copper ore for fertiliser	940	113	627	74	92	13
Copper concentrate	3,353	647	*3,442	*798	2,583	420
Crude oil (e)	11,649,067	33,549	15,582,841	44,879	16,534,837	35,570
Felspar	579	9	604	9	457	7
Gold bullion (f)	668,618	18,935	542,139	15,760	467,189	13,872
Gypsum	107,854	315	89,281	238	197,580	597
Iron ore	23,345,000	140,075	34,029,989	195,074	45,684,080	279,478
Lead concentrate	4,429	150	271	35	186	18
Limestone for industrial purposes (g)	831,707	587	1,511,498	*1,071	1,373,181	790
Magnesite	2,180	32
Manganese ore	163,169	1,159	152,209	948	142,194	477
Mineral sands—						
Ilmenite	638,533	5,334	677,743	6,300	730,905	7,034
Leucoxene	8,730	358	9,402	420	12,660	975
Monazite	3,014	348	3,550	437	3,601	471
Rutile	1,260	100	2,441	232	2,456	186
Xenotime	38	76	101	119	41	54
Zircon	51,785	1,194	54,537	1,350	54,270	1,360
Natural gas	'000 cubic ft	72	'000 cubic ft	151	'000 cubic ft	272
Nickel concentrate	143,603	(c)	301,605	(c)	544,000	(c)
Ochre	tons	9	tons	608	tons	6
Pyrite concentrate	51,140	188	157,555	125	299,244
Salt	588	613	3,176	608
Semi-precious stones	17,153	11	10,863	37
Talc	195,647	413	1,014,968	683	2,685,717	7,092
Tantalite concentrate	(c)	11	(c)	(c)	(c)	50
Tin concentrate	29,159	261	41,388	(c)	30,761	483
Other (value only) (h)	lb	lb	lb
	202,868	1,773	895	1,914	350,064	936
	tons	12,473	tons	*48,736	tons	1,939
	899	945	76,984
Total value ex-mine	235,017	339,959	446,643

(a) Preliminary; subject to revision. (b) Value is ex-mine. (c) Not available for publication. (d) Includes production of bentonite. (e) Value based on price per barrel published by Ampol Petroleum Limited. (f) Values include amounts realised by the Gold Producers' Association Ltd. on sales of Western Australian gold—in 1968-69, \$2,214,000; in 1969-70, \$1,780,000; in 1970-71, \$538,000. They also include Commonwealth net subsidy paid to gold producers—in 1968-69, \$1,586,000; in 1969-70, \$1,653,000; in 1970-71, \$2,467,000. (g) Comprises limestone used for agriculture, cement making, flux, glassmaking, lime burning and iron ore pelletising. (h) Includes those minerals for which values are not available for publication. * Revised.

No. 4—Metallic Content of Selected Minerals Produced

Metal or element	Mineral in which contained	Unit	1968-69	1969-70	1970-71(a)
Beryllium oxide	Beryllium ore	Unit of 22.4 lb	122	(b)	273
Cobalt	Nickel concentrate	ton	99	170	331
Copper	Copper concentrate	ton	775	(c) (d) 692	(c) (d) 475
	Copper ore	ton	6	16
	Copper ore for fertiliser	ton	117	113	18
	Copper precipitate	ton	(e)	(e)
	Nickel concentrate	ton	767	1,814	2,892
Total, Copper		ton	1,665	2,635	3,385
Gold	Gold bullion	f. oz	477,739	(b)	344,545
	Copper concentrate	f. oz	1,385	(b)	(c) 689
	Copper precipitate	f. oz	(b)	(e)
	Pyrite concentrate	f. oz	(b)
Total, Gold		f. oz	479,124	397,135	345,234
Iron	Iron ore	'000 tons	14,872	21,514	28,875
Lead	Lead concentrate	ton	1,367	179	84
Manganese	Manganese ore	ton	75,613	76,612	64,421
Monazite content	Monazite concentrate	ton	2,803	3,309	3,349
Nickel	Nickel concentrate	ton	6,086	17,762	34,366
Palladium	Nickel concentrate	oz	352
Platinum	Nickel concentrate	oz	519	592	998
Silver	Copper concentrate	f. oz	5,965	(b)	(c) 751
	Copper ore	f. oz	(b)
	Gold bullion	f. oz	160,031	(b)	109,477
	Lead concentrate	f. oz	64	56	35
	Pyrite concentrate	f. oz	(b)
Total, Silver		f. oz	166,060	128,383	110,263
Sulphur	Pyrite concentrate	ton	7,508	4,982
Tantalite	Tantalite concentrate	lb	17,645	49,232	(b)
	Tin concentrate	lb	5,773	14,685	(b)
Total, Tantalite		lb	23,418	63,917	140,653
Tin	Tin concentrate	ton	624	609	(b)
	Tantalite concentrate	ton	19	(b)
Total, Tin		ton	643	609	656
Titanium dioxide	Ilmenite concentrate	ton	349,539	381,044	401,326
	Leucoxene concentrate	ton	7,748	8,304	11,125
	Rutile concentrate	ton	1,215	2,295	2,237
Total, Titanium dioxide		ton	358,502	391,643	414,688
Yttrium oxide	Xenotime concentrate	lb	16,312	47,187	21,267
Zirconium oxide	Zircon concentrate	ton	33,887	35,696	35,553

(a) Preliminary; subject to revision. (b) Not available for publication. (c) Includes amounts contained in copper precipitate. (d) Includes amounts contained in lead concentrate. (e) Refer footnote (c).

No. 5—Mining Accident Casualties classified according to Mineral (a)
(Source: Department of Mines)

Mineral	Number of accidents									
	1967		1968		1969		1970		1971	
	Fatal	Serious (b)	Fatal	Serious (b)	Fatal	Serious (b)	Fatal	Serious (b)	Fatal	Serious (b)
Bauxite (Alumina)	15	1	19	19	18	1	53
Coal	44	37	1	33	28	33
Copper	12	7	1	14	11	1
Gold	4	217	9	199	4	179	4	116	1	176
Ilmenite, etc.	7	14	12	12	6
Iron	1	27	3	32	3	51	4	38	7	91
Lead	1
Manganese	1	1	2	1
Nickel	5	13	2	44	2	58	2	21
Oil (production and exploration)	1	35	36	1	38	1	24	1	29
Pyrite	4	3
Salt	1	1	1	1
Tin	4	1	6	2	5
Other minerals	1	2	2
Rock quarry products	1	2	1	3	6	5	1	9
Total	7	373	14	366	13	405	12	312	16	428

(a) Comprises accidents during mining operations, related processing and transportation. (b) Under the provisions of the Mines Regulations Act, 'Serious injury shall be such as results in the injured person being disabled from following his ordinary occupation and earning his usual rate of remuneration for a period of two weeks or more'.

No. 6—Leases, Licences, Permits, Rights, etc. in Force under the Mining Act and Special Acts
(Source: Department of Mines)

Particulars	At 31 December—					
	1969		1970		1971	
	Leases, etc. in force	Area of leases, etc.	Leases, etc. in force	Area of leases, etc.	Leases, etc. in force	Area of leases, etc.
	No.	acres	No.	acres	No.	acres
<i>Under the Mining Act—</i>						
<i>Gold—</i>						
Gold mining leases	1,184	22,868	1,375	26,308	1,370	26,022
Dredging claims	4	927	5	1,182	2	600
Prospecting areas	281	6,013	221	4,191	149	2,801
Temporary reserves	145	48,246	173	49,949	42	11,083
Total	1,614	78,054	1,774	81,630	1,563	40,506
<i>Coal—</i>						
Coal mining leases	51	15,645	52	15,016	52	15,016
Prospecting areas	15	43,920
Temporary reserves	2	4,320	2	4,320	2	4,320
Total	53	19,965	54	19,336	69	63,256
<i>Other minerals—</i>						
Mineral leases	259	69,057	299	45,933	347	59,731
Dredging claims	468	35,765	413	32,982	411	38,093
Mineral claims	5,527	1,376,104	20,272	5,344,357	27,795	7,593,074
Prospecting areas	126	2,688	86	2,023	34	751
Temporary reserves	673	58,746,595	655	40,615,982	534	30,115,538
Total	7,053	60,230,209	21,725	46,041,277	29,121	37,807,187
<i>Other holdings—</i>						
Miners' homestead leases	340	34,620	335	33,786	334	33,373
Miscellaneous leases	103	1,652	102	1,660	104	1,817
Residence areas	62	61	62	50	62	51
Business areas	17	17	26	15	28	24
Machinery areas	26	72	26	78	21	57
Tailings areas	23	89	24	97	24	89
Garden areas	71	233	70	243	70	245
Quarrying areas	23	408	45	854	87	1,701
Water rights	141	3,241	141	3,210	125	2,781
Licences to treat tailings	14	22	54
Total	820	40,393	853	39,993	909	40,138
Total under the Mining Act	9,540	*60,368,621	24,406	46,182,236	31,662	37,951,087
<i>Under Special Acts—</i>						
Bauxite	7	3,137,280	7	3,137,280	7	3,137,280
Iron	4	419,106	4	419,106	5	451,106
Salt	2	593,430	2	593,430	2	593,430
Total under Special Acts	13	4,149,816	13	4,149,816	14	4,181,816
GRAND TOTAL	9,553	*64,518,437	24,419	50,332,052	31,676	42,132,903

* Revised.

No. 7—Leases, Licences, and Permits in Force under Petroleum Acts (Source: Department of Mines)

Holding	At 31 December—					
	1969		1970		1971	
	No.	Blocks (a)	No.	Blocks (a)	No.	Block
Onshore—						
<i>Petroleum Act, 1936—</i>						
Permits to explore	21	13,722
Licences to prospect	7	47
Total	28	13,769
<i>Petroleum Act, 1967—</i>						
Exploration permits	38	5,517	53	6,510
Production licences	3	14
Petroleum lease (Barrow Is.)	1	8	1	8	1	8
Total	1	8	39	5,525	57	6,532
<i>Petroleum Pipelines Act, 1969—</i>						
Pipeline licence	1	(b)	3	(c)
Total	1	(b)	3	(c)
Offshore—						
<i>Petroleum (Submerged Lands) Act, 1967—</i>						
Exploration permits	35	11,880	35	8,808	34	8,727
Production licences
Petroleum lease (Barrow Marine)	1	12	1	12	1	12
Total	36	11,892	36	8,820	35	8,739
GRAND TOTAL	65	25,669	75	14,345	92	15,271

(a) A 'block' is a section of land 5 minutes of longitude in width and 5 minutes of latitude in length and having an average area of approximately 30 square miles but which, depending on the latitude, may range between 24 and 36 square miles. (b) 252.8 miles. (c) 272.4 miles.

No. 8—The Perth Mint: Summary of Operations (Source: The Perth Mint)

Year	Persons employed (a)	Expenditure				Net revenue
		Salaries and wages	Allowances paid to retired staff	Other contingencies (b)	Total	
1967	No. 129	\$ 444,945	\$ 14,481	\$ 145,814	\$ 605,240	\$ 657,818
1968	102	381,406	17,346	75,682	474,433	493,952
1969	93	370,150	20,038	74,344	464,532	472,506
1970	*88	374,779	12,641	98,657	486,077	474,999
1971	85	394,743	1,101	140,237	536,081	365,053

Year	Gold bullion received		Gold bullion issued		Silver bullion issued		Bronze coin produced
	Gross oz	Value (c)	Fine oz	Value (c)	Fine oz	Value	
1967	955,084	\$ 5,547,394	653,280	\$ 5,549,917	298,495	\$ 407,286	\$ 1,620,000
1968	893,872	5,161,152	607,403	5,160,158	219,623	449,226	457,100
1969	1,181,288	5,911,911	696,479	5,916,909	449,538	723,283
1970	934,543	3,937,932	463,263	3,935,632	413,974	649,311
1971	1,160,533	5,504,809	598,810	5,087,164	445,813	635,459

(a) Average over whole year. (b) Includes all capital expenditure, e.g. new machinery, etc. (c) Gold valued at \$7.7875 per standard ounce and excludes premium. * Revised.

NOTES ON STATISTICS OF MINERAL EXPLORATION

Tables 9 to 12 contain annual details of mineral exploration in Western Australia. The statistics of exploration for minerals other than petroleum, published in Tables 9 and 10 are derived from the annual mineral exploration census, which is carried out by the Bureau of Census and Statistics which does not include exploration for petroleum and natural gas. Information given in Tables 11 and 12 relating to petroleum and gas exploration is compiled by the Bureau of Mineral Resources, Geology and Geophysics.

It should be noted that the scope of the data collected by the Bureau of Mineral Resources, Geology and Geophysics differs in some respects from the scope of the data collected by the Bureau of Census and Statistics in regard to exploration for minerals other than petroleum. The differences are mainly in definition of terms and range of data collected and there is not, therefore, complete comparability between the two series.

Mineral Exploration Census (excluding Petroleum Exploration)

For 1968 and earlier years the annual mineral exploration census (excluding petroleum exploration) related to the years ended 31 December. As from 1968-69, the reporting period for this census has been changed to a year ended 30 June, to conform with a similar change in the annual mining census. In Table 10 a double line is drawn between columns for 1968 and 1968-69 to indicate this break in continuity of the series. It should be noted that data for the six months ended 31 December 1968 are therefore included in both the 1968 and the 1968-69 figures in this table.

For the purposes of the census, mineral exploration consists of the search for and/or appraisal of new ore occurrences and known deposits of minerals (including extensions to deposits being worked) by geological, geophysical, geochemical, and other methods (including drilling). Exploration for water is excluded. The construction of shafts and adits is included if primarily for exploration purposes. Excluded are mine development activities (which include the construction of drives, shafts, winzes, etc.) in underground mines and the preparation of quarrying sites for open-cut extraction (including over-burden removal) carried out primarily for the purpose of commencing or extending mining and quarrying operations.

Information on private exploration is divided into three categories:

- (i) Private exploration on production leases, which relates to exploration carried out on production leases by privately operated mines currently producing or under development for production of minerals other than petroleum.
- (ii) Private exploration on other areas, which relates to exploration carried out on areas such as mineral claims, temporary reserves, etc. covered by authorities to enter, authorities to prospect and similar licences and authorities issued by the State Government for exploration for minerals other than petroleum.
- (iii) Other private exploration, which relates to exploration not directly connected with areas under lease, licence, etc. including general surveys, aerial surveys, report writing, map preparation and other off-site activities not directly attributable to particular lease or licence areas.

Information given in Table 9 on State Government exploration relates to exploration carried out by the Western Australian Department of Mines. Information on Commonwealth Government exploration is not available separately for States.

Definitions of terms used in Tables 9 and 10 are as follows:

Core drilling. Diamond drilling or any kind of drilling in which drill cores are taken.

Non-core drilling. Alluvial, percussion and other drilling in which drill cores are not taken.

Shaft. Vertical or sloping access to underground mineral deposit.

Adit. Horizontal or inclined access to underground mineral deposit usually from hillside.

Drive. A tunnel or level in (or parallel to and near) a mineral deposit.

Winze. Internal shaft in mine, usually connecting two levels in plane of lode.

Costean. A trench excavated to expose an ore deposit or to determine the direction of an ore body.

Petroleum Exploration

For the purpose of the statistical series compiled and published by the Bureau of Mineral Resources, Geology and Geophysics, petroleum and exploration consists of the search for and/or appraisal of deposits of crude petroleum and/or gas by geological, geophysical, geochemical and other means, including drilling. Included in the expenditure are the costs of drilling exploratory oil and/or gas wells and the testing of such wells. Also included are the costs of access roads, site construction, permits, licences and similar fees, relevant office building and furniture, transportation equipment, storage facilities, plant and equipment and review work if primarily for purposes of exploration for deposits of petroleum or natural gas. The cost of drilling developmental oil and/or gas wells and expenditure on production facilities and pipelines, and production costs, etc. are excluded.

Petroleum exploration data relate to years ended 31 December.

Information on direct Government expenditure on petroleum exploration is not available separately for States and Table 11 therefore relates to private exploration only. It should be noted, however, that expenditure shown in this table includes amounts of subsidy received from the Commonwealth Government.

No. 9—Mineral Exploration (other than for Petroleum)
Expenditure, Employment, and Footage Drilled, Sunk or Driven: 1970-71

Particulars	Private exploration				State Government exploration (b)	Total (incl. State Government)
	On production leases	On other licensed areas	Other exploration (a)	Total		
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Exploration expenditure (c)—						
Salaries and wages paid	2,095	11,707	676	14,478	191	14,669
Materials used in exploration	2,333	5,242	292	7,867	18	7,885
Expenditure on fixed tangible assets for exploration purposes	2,275	6,921	216	9,412	21	9,433
Other expenses (including travelling expenses, office expenses, etc.)	1,084	22,236	960	24,280	5	24,285
Payments to contractors (d)	3,562	25,711	771	30,044	30,044
Total exploration expenditure	11,350	71,817	2,914	86,082	234	86,316
Expenditure on drilling	4,423	17,085	21,507	21,507
Other expenditure (e)	6,928	54,732	2,914	64,574	234	64,809
	man-weeks	man-weeks	man-weeks	man-weeks	man-weeks	man-weeks
Employment (f)—						
Working proprietors and working partners	257	3,739	365	4,361	4,361
Professional persons (g)	4,866	29,442	2,330	36,638	963	37,601
Non-professional persons (h)	14,750	76,684	3,043	94,477	1,299	95,776
Total	19,873	109,865	5,738	135,476	2,262	137,738
	feet	feet	feet	feet	feet	feet
Total footage drilled, sunk or driven—						
Drilled—						
Core	394,758	810,630	1,205,388	1,205,388
Non-core	942,460	4,265,718	5,208,178	5,208,178
Total	1,337,218	5,076,348	6,413,566	6,413,566
Sunk or driven—						
Shafts, winzes, etc.	1,848	546	2,394	2,394
Adits, drives, etc.	(i)	(i)	4,558	4,558
Costeans, small pits, etc.	(i)	(i)	240,463	240,463
Total	6,665	240,750	247,415	247,415

(a) Not attributable to particular lease or licence areas. (b) Exploration by the Western Australian Department of Mines only. (c) Expenditure whether charged as working expenses or capitalised. (d) Amounts paid to drilling contractors, geological consultants, technical advisers, etc. for exploration services. (e) Includes expenditure on geological work and on adits, shafts, etc. (f) Comprises the operator and his staff only; includes time spent on report writing and similar off-site activities associated with exploration; excludes contractors and their employees. (g) Geologists, geophysicists, engineers, etc. engaged in exploration work. (h) Drill operators, field hands, etc. (i) Not available for publication.

No. 10—Private Mineral Exploration (other than for Petroleum) (a)
Expenditure, Employment, and Footage Drilled, Sunk or Driven

Particulars	Unit	1967	1968	1968-69 (b)	1969-70	1970-71
Expenditure (c)—						
On drilling	\$'000	3,313	6,467	10,464	14,293	21,507
Other (d)	\$'000	6,890	16,681	24,948	45,527	64,574
Total	\$'000	10,203	23,148	35,412	59,821	86,082
Payments to contractors (e)	\$'000	3,159	7,586	13,661	20,111	30,044
Employment (f)—						
Working proprietors and working partners	man-week	(g)	(g)	(g)	(g)	4,361
Professional persons (h)	man-week	13,780	14,463	18,336	26,256	36,638
Non-professional persons (i)	man-week	23,839	38,374	49,338	77,057	94,477
Total	man-week	37,619	52,837	67,674	103,313	135,476
Footage drilled, sunk or driven—						
Drilled—						
Core	foot	361,668	714,829	999,148	1,180,220	1,205,388
Non-core	foot	537,474	1,030,282	1,371,813	5,095,815	5,208,178
Total	foot	899,142	1,745,111	2,370,961	6,276,035	6,413,566
Sunk or driven (j)	foot	7,952	22,720	121,590	68,033	247,415

(a) Excludes exploration by the Western Australian Department of Mines and the Commonwealth Bureau of Mineral Resources, Geology and Geophysics. (b) The annual mineral exploration census was changed to a fiscal year basis, commencing with the year ended 30 June 1969. (c) Expenditure whether charged as working expenses or capitalised. Includes payments to contractors. (d) Includes expenditure on geological work and on adits, shafts, etc. (e) Amounts paid to drilling contractors, geological consultants, technical advisers, etc. for exploration services. Included in preceding figures. (f) Comprises the operator and his staff only; includes time spent on report writing and similar off-site activities associated with exploration; excludes contractors and their employees. (g) Not collected as a separate item prior to 1970-71. (h) Geologists, geophysicists, engineers, etc. engaged in exploration work. (i) Drill operators, field hands, etc. (j) Includes shafts, winzes, etc. sunk; drives, adits, etc. driven and costeans, small pits, etc.

No. 11—Private Petroleum Exploration: Expenditure and Source of Funds
 (Source: Bureau of Mineral Resources, Geology and Geophysics)
 (\$'000)

Particulars	1967	1968	1969	1970	1971
Private expenditure (a)—					
Geological	1,159	449	516	801	1,408
Geophysical	7,282	6,026	6,684	8,876	9,126
Drilling	6,397	17,463	23,847	21,771	32,162
Other	390	1,621	1,432	2,714	2,766
Total	15,229	25,560	32,480	34,161	45,462
Source of funds—					
Private sources	11,788	21,532	26,194	29,557	41,872
Government subsidy (b)	3,441	4,027	6,286	4,604	3,590

(a) Includes expenditure financed by payments under the *Petroleum Search Subsidy Act 1959-1969* (Commonwealth).
 (b) Comprises payments under the *Petroleum Search Subsidy Act 1959-1969*.

No. 12—Petroleum Exploration: Summary of Wells and Footage Drilled (a)
 (Source: Bureau of Mineral Resources, Geology and Geophysics)

Particulars	1967	1968	1969	1970	1971
Wells drilled (b)	No. 194	127	206	63	32
Average total depth of wells drilled (c)	ft 5,444	5,832	7,500	6,654	8,363
Wells completed as potential oil producers	No. 164	53	97	13
Wells completed as potential gas producers	No. 2	1	7	2	1
Wells drilled or drilling over 10,000 ft	No. 4	5	9	5	14
Footage drilled—					
Completed wells	ft 561,324	406,189	636,818	217,347	222,150
Uncompleted holes (d)	ft 7,714	30,811	10,871	28,737	10,857
Total footage drilled	ft 569,038	437,000	647,689	246,084	233,007

(a) With the exception of 'Average total depth of wells drilled' for 1967, 1968 and 1969 the data include particulars for developmental wells. (b) Number of holes which reached total depth during the year. (c) See footnote (a).
 (d) Comprises wells suspended and wells on which drilling was in progress at 31 December of the year shown.

FISHERIES (INCLUDING PEARLING AND WHALING)

NOTE. Catch and effort data contained in Tables 13 to 23 are compiled by the Western Australian Office of the Commonwealth Bureau of Census and Statistics from monthly returns collected by the Western Australian Department of Fisheries and Fauna from licensed commercial fishermen. Data relating to activities of amateur fishermen are not included.

Details of the value of fish, crustaceans and molluscs caught have been compiled by the Western Australian Office of the Bureau of Census and Statistics using data obtained from fish dealers, fish processors and fishermen's co-operatives. The values shown represent gross value paid to fishermen.

No. 13—Fish, Crustaceans and Molluscs: Catch and Value (a)

Species—Common name	Quantity ('000 lb)			Value (\$'000)		
	1968-69	1969-70	1970-71	1968-69	1969-70	1970-71
Fish—						
Anchovy (Whitebait)	76	114	176	7.6	17.1	15.8
Bream, Black	23	10	18	4.1	2.2	4.1
Bream, Buffalo	26	60	55	3.2	3.0	2.7
Bream, Western Yellowfin	22	18	28	1.3	2.4	3.3
Cobbler	158	234	383	21.3	37.7	53.6
Cod	38	42	43	6.2	5.1	5.8
Emperor (North-West Snapper)	9	54	60	1.2	7.5	8.8
Emperor, Red	(b)	38	(c)	6.4
Flathead, Dusky	17	15	17	2.0	1.8	1.7
Garfish, Sea	37	44	60	4.3	6.1	8.3
Groper, Blue, Brown or Red	21	33	54	3.5	4.2	8.1
Herring, Perth	492	183	367	37.0	12.8	36.7
Jewfish, Westralian	226	301	291	84.9	105.4	116.1
Leatherjacket	12	23	27	1.5	2.9	4.0
Mackerel, Scaly	104	60	58	5.9	3.6	8.2
Mackerel, Spanish	165	131	96	28.6	21.0	18.2
Mullet, Sea	689	782	692	80.9	78.2	89.9
Mullet, Yellow-eye	577	764	673	51.0	61.2	60.6
Mulloway (River Kingfish)	26	13	19	1.8	1.0	1.4
Perch, Giant (Barramundi)	16	22	31	2.2	1.2	3.5
Pilchard	244	309	439	22.6	27.8	57.0
Ruff (Sea Herring)	1,363	1,353	1,615	47.3	47.3	64.6
Salmon Australian	5,576	4,713	3,628	204.7	188.5	174.2
Samson Fish (Sea Kingfish)	101	100	61	12.6	9.8	7.7
Shark	763	826	1,034	92.0	104.0	149.6
Snapper	313	455	423	53.2	61.9	67.7
Tailor	80	112	102	9.7	10.1	15.3
Trevally (Skipjack)	46	45	24	4.7	4.1	4.2
Tuna	714	1,122	1,229	35.9	78.5	86.1
Whiting, King George	73	131	154	21.9	23.5	38.4
Whiting, Western Sand	309	425	343	57.6	76.6	65.2
Other species	108	98	104	11.6	10.3	12.5
Total Fish	12,425	12,592	12,339	922.3	1,018.8	1,199.7
Crustaceans—						
Crabs	61	68	107	9.9	17.8	48.1
Prawns—Banana	187	260	321	69.5	88.4	144.4
Brown Tiger	1,625	2,942	2,570	783.8	1,529.6	1,310.8
Endeavour	81	258	597	31.8	80.0	191.1
Green-tail	69	157	53	34.5	42.5	21.2
Western King	1,862	1,875	2,637	882.5	956.1	1,318.7
Total Prawns	3,823	5,492	6,179	1,802.1	2,696.6	2,986.3
Rock lobsters	18,030	15,335	17,861	17,801.2	12,114.9	18,040.0
Total Crustaceans	21,914	20,896	24,147	19,613.3	14,829.3	21,074.4
Molluscs—						
Abalone	(d)	38	266	(d)	7.5	69.7
Scallops	267	2,862	3,897	21.3	200.4	214.1
Other molluscs	40	39	28	9.9	6.4	5.3
Total Molluscs	307	2,939	4,191	31.2	214.2	289.1
TOTAL, WESTERN AUSTRALIA (a)	20,566.6	16,062.3	22,563.2

(a) Excludes aquatic reptiles, details of which are not available for publication.
 (d) Not available for publication; included in 'Other molluscs'.

(b) Less than 500 lb.

(c) Less

No. 14—Fish and Crustaceans: Catch by Fishing Locality (a): 1970-71
(⁰⁰⁰ lb)

Fishing locality	Fish	Crabs	Prawns	Rock lobsters	Total
Esperance	86	7	93
Doubtful Island	95	95
Bremer Bay	652	652
Cheyne Beach	1,282	1,282
Cape Riche	112	112
Two Peoples Bay	60	60
Betty's Bay	286	286
Nanarup	581	581
Albany	2,513	(b)	2,514
Torbay	346	346
Wilson Inlet	234	234
Parry Inlet	92	92
Peaceful Bay	115	115
Hardy Inlet	181	181
Hamelin Bay	293	8	301
Margaret River	15	15	30
Quindalup	155	155
Busselton	730	12	742
Bunbury	410	39	147	596
Mandurah	1,036	33	60	172	1,301
Safety Bay	58	2	167	227
Rockingham	8	41	49
Perth	463	29	2	494
Fremantle	736	4	4	1,931	2,675
Whitfords Beach	29	35	64
Quinns	71	71
Yanchep	37	211	248
Wreck Point	3	203	206
Cape Leschenault	24	413	437
Ledge Point	3	622	625
Lancelin	36	1,381	1,417
Wedge Island	3	158	161
Green Island	7	273	280
Cervantes Island	15	842	857
Jurien Bay	47	1,451	1,498
Green Head	12	573	585
Snag Island	16	592	608
Beagle Island	231	231
Freshwater Point	447	447
Port Denison	33	1,923	1,956
Seven-Mile Beach	145	145
Geraldton	10	1,448	1,458
Pelsart Island	24	681	705
Easter Island	18	1,039	1,057
Wallabi Island	14	908	922
North Island	6	639	645
Drummond Cove	81	81
Coronation Beach	86	86
Horrocks Beach	78	78
Port Gregory	4	125	129
Murchison River	45	607	652
Denham	735	2,740	9	3,484
Carnarvon	90	962	1,052
Exmouth Gulf	193	2,028	2	2,223
Point Samson	2	(b)	340	(b)	343
Other localities	395	(b)	42	86	523
TOTAL, WESTERN AUSTRALIA	12,339	107	6,179	17,861	36,486

(a) Fishing locality is the anchorage from which the fishermen operate.

(b) Less than 500 lb.

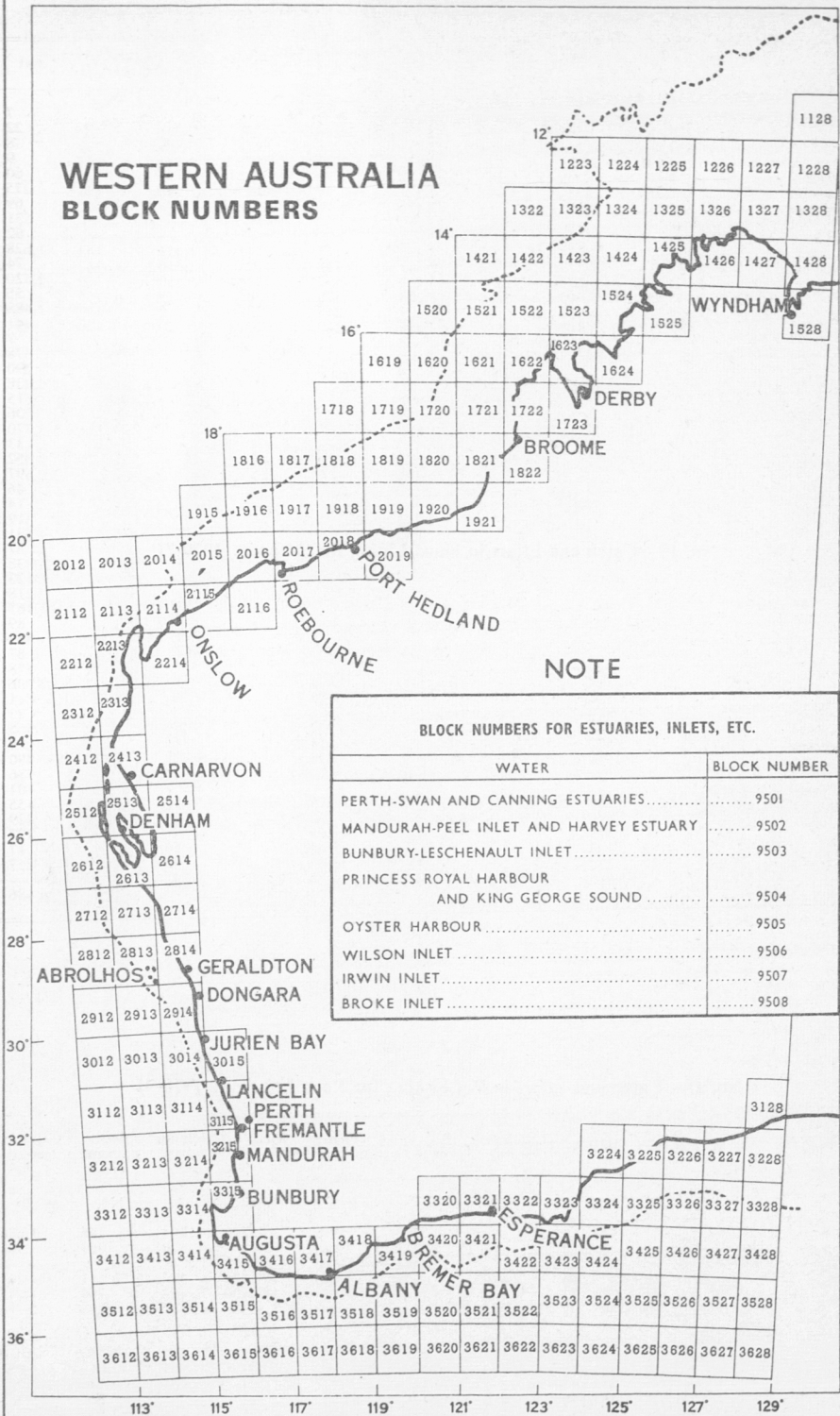
No. 15—Fish and Crustaceans: Catch by Fishing Blocks (a): 1970-71
(‘000 lb)

Block number	Fish	Crabs	Prawns	Rock lobsters	Total
1524	22	7	7
1528	38	(b)	22
1822	38
1919	9	9
2016	60	60
2017	1	(b)	274	275
2113	47	21	1	69
2114	61	469	1	531
2213	62	(b)	62
2214	85	1,542	1	1,628
2412	70	4	74
2413	32	1,488	1,520
2512	51	4	55
2513	344	2,144	2,488
2613	285	45	11	341
2614	7	7
2713	6	372	378
2714	39	251	290
2813	71	3,267	3,338
2814	10	1,605	1,615
2913	106	106
2914	56	44	3,470	3,570
3013	33	33
3014	100	2,952	3,052
3015	5	692	697
3112	46	46
3113	14	14
3114	12	307	319
3115	556	(b)	3,573	4,131
3214	2	27	27
3215	451	6	2	879	1,338
3313	123	123
3314	195	23	218
3315	982	17	164	1,163
3414	74	15	89
3415	365	4	369
3416	67	(b)	67
3417	178	178
3418	2,706	2,706
3419	811	811
3516	83	83
3517	965	965
3518	614	614
9501	456	29	4	490
9502	894	32	59	986
9503	79	22	101
9504	455	(b)	455
9505	429	(b)	429
9506	227	227
9508	17	17
Other blocks	218	3	35	257
TOTAL, WESTERN AUSTRALIA	12,339	107	6,179	17,861	36,486

(a) The geographical location of the fishing blocks is shown in the map opposite.

(b) Less than 500 lb.

WESTERN AUSTRALIA BLOCK NUMBERS



No. 16—Catch and Effort in Haul Netting and Beach Seining: 1970-71

Month	Catch	Man-days worked	Catch per man-day	Boat-days	Catch per boat-day	Men engaged	Catch per man	Boats engaged	Catch per boat
	lb	No.	lb	No.	lb	No.	lb	No.	lb
1970—									
July	473,583	3,567	133	2,279	208	200	2,368	133	3,561
August	517,886	3,161	164	2,011	258	178	2,909	117	4,426
September	220,831	2,961	75	1,832	121	178	1,241	117	1,887
October	355,440	3,049	117	2,037	174	185	1,921	126	2,821
November	172,054	2,784	62	1,921	90	175	983	121	1,422
December	185,331	3,651	51	2,454	76	195	950	135	1,373
1971—									
January	350,050	3,824	92	2,482	141	211	1,659	144	2,431
February	338,319	4,139	82	2,643	128	224	1,510	147	2,301
March	1,872,695	6,679	280	3,162	592	318	5,889	172	10,888
April	1,835,853	5,965	308	3,202	573	305	6,019	175	10,491
May	669,227	4,186	160	2,499	268	238	2,812	147	4,553
June	486,358	3,308	147	2,056	237	201	2,420	129	3,770

No. 17—Catch and Effort in Hand Lining for Snapper: 1970-71

Month	Catch	Men engaged	Catch per man	Boats engaged	Catch per boat
	lb	No.	lb	No.	lb
1970—					
July	24,411	10	2,441	6	4,069
August	11,584	15	772	9	1,287
September	5,888	8	736	5	1,178
October	3,982	12	332	7	569
November	5,522	9	614	6	920
December	11,516	14	823	8	1,440
1971—					
January	1,910	7	273	5	382
February	2,496	13	192	8	312
March	2,313	14	165	9	257
April	6,107	8	763	5	1,221
May	5,534	5	1,107	4	1,384
June	5,888	5	1,178	3	1,963

No. 18—Catch and Effort in Pot Fishing for Rock Lobsters: 1970-71

Month	Catch	Potlifts	Catch per potlift	Boat-days	Catch per boat-day	Men engaged	Catch per man	Boats engaged	Catch per boat
	lb	No.	lb	No.	lb	No.	lb	No.	lb
1970—									
July	728,435	536,678	1.3	7,790	94	824	884	448	1,626
August	354,095	227,510	1.5	3,341	106	681	520	369	960
September
October	247	240	1.0	12	21	2	124	1	247
November	870,153	714,192	1.2	8,116	107	1,747	498	760	1,145
December	4,663,907	1,805,797	2.5	19,952	234	1,864	2,502	805	5,794
1971—									
January	2,302,690	1,241,720	1.8	13,629	169	1,763	1,306	760	3,030
February	1,263,812	928,846	1.3	10,569	120	1,503	841	646	1,956
March	3,087,569	1,418,194	2.1	16,195	191	1,781	1,734	786	3,928
April	2,751,975	1,354,158	2.0	15,776	174	1,712	1,607	768	3,583
May	1,201,427	789,565	1.5	10,118	119	1,231	976	592	2,029
June	641,876	579,099	1.1	7,721	83	1,001	641	500	1,284

No. 19—Catch and Effort in Trawling for Prawns (a): 1970-71

Month	Catch	Shots	Catch per shot	Boat-hours	Catch per boat-hour	Boat-days	Catch per boat-day	Men engaged	Catch per man	Boats engaged	Catch per boat
	lb	No.	lb	No.	lb	No.	lb	No.	lb	No.	lb
1970—											
July	862,650	8,410	103	13,146	66	1,173	735	231	3,734	63	13,693
August	593,593	5,777	103	9,315	64	888	668	193	3,076	54	10,992
September	618,161	3,958	156	8,270	75	726	851	146	4,234	39	15,850
October	356,538	1,970	181	4,618	77	406	878	71	5,022	21	16,978
November	100,762	695	145	1,247	81	116	869	48	2,099	13	7,751
December											
1971—											
January	30,784	356	86	650	47	58	531	30	1,026	8	3,848
February	148,740	1,697	88	2,543	58	271	549	67	2,220	17	8,749
March	440,034	6,130	72	8,523	52	760	579	154	2,857	38	11,580
April	945,769	7,021	135	12,621	75	1,136	833	202	4,682	54	17,514
May	988,341	7,565	131	13,009	76	1,186	833	191	5,175	54	18,303
June	946,552	6,749	140	11,365	83	1,079	877	205	4,617	57	16,606

(a) The distribution of effort data has been estimated for those boats which caught both prawns and scallops in the same month.

No. 20—Catch and Effort in Trawling for Scallops (a): 1970-71

Month	Catch	Shots	Catch per shot	Boat-hours	Catch per boat-hour	Boat-days	Catch per boat-day	Men engaged	Catch per man	Boats engaged	Catch per boat
	lb	No.	lb	No.	lb	No.	lb	No.	lb	No.	lb
1970—											
July	9,101	50	182	50	182	10	910	3	3,034	1	9,101
August	29,000	248	117	136	213	16	1,813	3	9,667	1	29,000
September	37,186	503	74	558	67	51	729	11	3,381	5	7,437
October	37,227	254	147	211	176	15	2,148	3	10,742	1	37,227
November	2,965	16	185	28	106	2	1,483	1	2,965	1	2,965
December											
1971—											
January											
February											
March	8,051	150	54	72	112	12	671	3	2,684	1	8,051
April											
May											
June											

(a) The distribution of effort data has been estimated for those boats which caught both prawns and scallops in the same month.

No. 21—Fish and Crustaceans: Catch by Method: 1970-71
(‘000 lb)

Particulars	Haul net and beach seining	Hand lining (a)	Trawling	Pot fishing for rock lobsters	Other methods	Total
Fish	7,319	87	4,933	12,339
Crabs	73	34	107
Prawns	43	6,040	96	6,179
Rock lobsters	17,859	2	17,861
Total	7,435	87	6,040	17,859	5,066	36,486

(a) Snapper only. Catch of other species by hand lining is included in ‘Other methods’.

No. 22—Whaling (a)

Particulars	1967	1968	1969	1970	1971
Sperm whales taken	587	658	679	799	860
Oil produced (b)	3,738	3,912	4,357	5,281	6,069

(a) Figures have been derived from information provided by the Fisheries Branch of the Commonwealth Department of Primary Industry.

(b) 1 ton = 6 barrels (approximately).

No. 23—Pearl and Pearl-shell Fisheries
(excluding Pearl Culture)

(Source: Department of Fisheries and Fauna)

Particulars	Year ended 31 December—				
	1967	1968	1969	1970	1971
Vessels operating—					
Number	14	13	12	11	11
Aggregate tonnage	332	319	296	259	297
Value (including equipment)	\$ 123,500	124,000	174,000	171,000	160,000
Number of persons engaged	132	119	107	122	107
Pearl-shell and pearls produced—					
Pearl-shell—					
Quantity	tons 221	212	246	212	172
Value	\$ 354,845	333,008	370,561	407,262	395,743
Value of pearls	\$ 4,200	1,050	336	6,037	1,400

FORESTRY

No. 24—Area under Forest, Production, and Employment

Particulars	1969-70	1970-71
Exploitable areas under forest (a)—	'000 acres	'000 acres
Natural forest	5,050	5,033
Plantations—		
Coniferous	69	81
Broadleaved	19	19
Total	5,138	5,133
Forest areas under reservation (b)—		
State forests	4,461	4,477
Timber reserves under Forests Act and Land Act (a)	273	278
Total	4,734	4,755
Production—	'000 cu ft	'000 cu ft
Logs for sawing, peeling, slicing, etc.—		
Forest broadleaves	42,877	43,055
Plantation-grown pines	2,924	3,102
Hewn and other timber	26,845	28,255
Employment (c)—		
Forests Department employment—	number	number
Foresters	51	53
Extraction (d)	35	17
Other	841	813
Other forest employment—		
Extraction (d)	958	734
Other	450	400
Total	2,335	2,017

(a) Excludes areas of woodlands which, prior to 1969-70, were classified as forests.

(b) Excludes Flora and Fauna

Reserves, Scenic Reserves, National Parks, etc.

(c) Excludes employment in private and government-operated saw

mills. (d) Felling, carting, etc.

VALUE OF PRIMARY PRODUCTION

(excluding Mining and Quarrying)

DEFINITIONS OF TERMS USED

Gross Value is the value placed on recorded production at the wholesale price realised at the principal market. In cases where primary products are consumed at the place of production or where they become raw material for a secondary industry, these points of consumption are taken as the principal markets.

Marketing Costs comprise freight, cost of containers, commission, and other charges incurred in marketing.

Local Value is the value recorded at the place of production, and is obtained by deducting *Marketing Costs* from *Gross Value*.

Cost of Goods Consumed in the Process of Production covers seed and fertilisers used, pickling, sprays, dips, fodder consumed, fuel and oil, and other selected costs of a similar nature.

Net Value represents the return to the producer (farmer, pastoralist, fisherman, etc.) and is the sum available for payment of wages, interest, rent, depreciation, other overhead costs, and for the producer's own income. It is obtained by deducting from *Local Value* the *Cost of Goods Consumed in the Process of Production*.

Gross and *Local Values* of primary production involve some duplication as they include the products of certain primary industries which are consumed as raw materials by other industries in the group (e.g. hay consumed by livestock). Furthermore, many of the materials consumed by primary industries are the products of secondary industry. However, duplication has been eliminated in calculating the *Net Value* of primary production by deducting the cost of both primary and secondary products consumed by primary industries. Therefore, *Net Value* of primary production should be used when comparing values for primary industries with equivalent values for secondary industry.

MINING AND QUARRYING

Estimates of mining and quarrying values, as compiled and published in earlier editions of this bulletin for calendar years up to and including 1968, have been discontinued. They have been replaced by information obtained on a fiscal year basis in the 1968-69 integrated economic censuses (of which mining and quarrying form a sector) and subsequent censuses of mining and quarrying. Values derived from the 1968-69 and subsequent censuses are not directly comparable with figures for previous years because of changes in the census units, the scope of the census and the items of data.

Particulars of mining and quarrying activity derived from the 1968-69 and subsequent economic censuses, together with explanatory notes, are given in the first section of this publication.

No. 25—Value of Primary Production (excluding Mining and Quarrying) (a)

Season or year	Gross Value (based on principal market prices) \$	Marketing costs \$	Local Value (at source of production) \$	Goods consumed in process of production \$	Net Value \$
Fishing (b)					
1966-67	16,524,818	56,022	16,468,796	1,494,000	14,974,796
1967-68	21,953,744	148,367	21,805,377	1,386,000	20,419,377
1968-69	23,717,218	117,547	23,599,671	1,361,000	22,238,671
1969-70	19,659,550	123,550	19,536,000	1,547,000	17,989,000
1970-71	25,126,656	98,521	25,028,135	1,373,000	23,655,135
Forestry (exclusive of Milling)					
1966-67	13,299,922	827,161	12,472,761	(c)	12,472,761
1967-68	14,076,244	802,974	13,273,270		13,273,270
1968-69	13,464,694	873,930	12,590,764		12,590,764
1969-70	13,631,997	836,524	12,795,473		12,795,473
1970-71	16,174,312	1,329,361	14,844,951		14,844,951
Hunting					
1966-67	986,286	227,855	758,431	(c)	758,431
1967-68	1,235,957	335,859	900,098		900,098
1968-69	1,210,521	397,861	812,660		812,660
1969-70	1,098,386	328,284	770,102		770,102
1970-71	833,819	241,686	592,133		592,133
Total Fishing, Forestry and Hunting					
1966-67	30,811,026	1,111,038	29,699,988	1,494,000	28,205,988
1967-68	37,265,945	1,287,200	35,978,745	1,386,000	34,592,745
1968-69	38,392,433	1,389,338	37,003,095	1,361,000	35,642,095
1969-70	34,389,933	1,288,358	33,101,575	1,547,000	31,554,575
1970-71	42,134,787	1,669,568	40,465,219	1,373,000	39,092,219
Rural Industries (d)					
1966-67	411,084,466	43,425,630	367,658,836	72,590,019	295,068,817
1967-68	428,258,211	49,782,104	378,476,107	82,672,778	295,803,329
1968-69	468,224,373	54,842,205	413,382,168	90,776,042	322,606,126
1969-70	373,583,875	46,100,078	327,483,797	94,755,077	232,728,720
1970-71	450,918,853	64,322,853	386,596,000	86,687,888	299,908,112
Total Primary (excluding Mining and Quarrying)					
1966-67	441,895,492	44,536,668	397,358,824	74,084,019	323,274,805
1967-68	465,524,156	51,069,304	414,454,852	84,058,778	330,396,074
1968-69	506,616,806	56,231,543	450,385,263	92,137,042	358,248,221
1969-70	407,973,808	47,388,436	360,585,372	96,302,077	264,283,295
1970-71	493,053,640	65,992,421	427,061,219	88,060,888	339,000,331

(a) See letterpress on page 24. (b) Includes pearling and whaling. (c) Not available. (d) Comprises agriculture, bee keeping, dairying, pastoral industry and poultry farming.

STATISTICAL PUBLICATIONS – continued

Issued by the Deputy Commonwealth Statistician and Government Statistician,
1-3 St George's Terrace, Perth

PRINTED PUBLICATIONS

Title of Publication	Latest issue at 28 February 1973	Month of issue	Price	
			Excluding postage	Including postage (a)
WESTERN AUSTRALIAN YEAR BOOK	No. 11, 1972	Oct. 1972	\$ 2.00	\$ 2.45 (b)
WESTERN AUSTRALIAN POCKET YEAR BOOK (c)	No. 54, 1972	Sept. 1972	0.20	0.27
QUARTERLY STATISTICAL ABSTRACT	Dec. 1972	Jan. 1973	0.20	0.27
STATISTICS OF WESTERN AUSTRALIA (Annual): (d)				
Building and Housing (c)	1970-71	Sept. 1972	0.30	0.37
Demography (c)	1970	Jan. 1973	0.40	0.52
Finance	1970-71	Aug. 1972	0.40	0.47
Labour and Prices	1971	Sept. 1972	0.60	0.67
Local Government (c)	1969-70	July 1972	0.50	0.57
Non-Rural Primary Industries	1969-70	Nov. 1972	0.20	0.27
Rural Industries (c)	1969-70	June 1972	1.10	1.34
Social Statistics (c)	1971	Feb. 1973	0.30	0.42
Summary from 1829	1829-1971	Sept. 1972	0.20	0.27
Trade (overseas and interstate)	1970-71	Aug. 1972	1.40	1.75 (e)
Transport and Communication	1968-69	Apr. 1972	0.30	0.37
ABSTRACT OF STATISTICS OF LOCAL GOVERNMENT AREAS (Annual) (c)	1973	Feb. 1973	0.50	0.68

(a) Within Australia and to Christmas Island, Cocos Island, Lord Howe Island, Norfolk Island, Nauru and Papua-New Guinea. (b) Within 30 miles of the General Post Office, Perth. Elsewhere in Western Australia, postage is 55 cents; to other States and Territories, 61 cents. (c) Includes statistics for individual local government areas. (d) Replaces the *Statistical Register of Western Australia* for 1968-69 and subsequent years. (e) Within 30 miles of the General Post Office, Perth. Elsewhere in Western Australia and to Cocos Island and Christmas Island, postage is 45 cents; to South Australia and Northern Territory, 65 cents; to Victoria, 75 cents; elsewhere in Australia, etc., 85 cents.

MIMEOGRAPHED PUBLICATIONS

(Available free of charge on application)

Subject	Frequency of issue	Latest issue at 28 February 1973	Month of issue
ACCIDENTS—			
Industrial Accidents	Annually	1971-72	Dec. 1972
Road Traffic Accidents involving Casualties	Quarterly	Sept. qr 1972	Dec. 1972
Road Traffic Accidents involving Casualties (a)	Annually	1971	Aug. 1972
BUILDING—			
Building Operations (a)	Quarterly	Sept. qr 1972	Dec. 1972
Building Permits and Approvals (a)	Monthly	Jan. 1973	Feb. 1973
Number of New Houses and Flats (preliminary estimates)	Quarterly	Dec. qr 1972	Jan. 1973
EMPLOYMENT—			
Wage and Salary Earners in Civilian Employment	Annually	June 1966 to June 1972	Sept. 1972
FINANCE—			
Fire, Marine and General Insurance Statistics	Annually	1971-72	Jan. 1973
Local Government Finance Statistics	Annually	1970-71	Oct. 1972
Local Government Revenue and Expenditure: Budget Estimates (a)	Annually	1972-73	Nov. 1972
MOTOR VEHICLES—			
Motor Vehicle Registrations	Monthly	Dec. 1972	Feb. 1973
Motor Vehicle Registrations (a)	Annually	1969	Aug. 1970
POPULATION AND VITAL STATISTICS—			
Divorce	Annually	1971	June 1972
Hospital In-patient Statistics	Annually	1971	Aug. 1972
Interannual Changes in Population (a)	Irregular	1961-1966	June 1968
Population and Occupied Dwellings: Censuses, 1911 to 1966 (a)	Irregular	1911 to 1966	Feb. 1968
Population, Dwellings and Vital Statistics (Local Government Areas and Statistical Divisions) (a)	Annually	1971 and 1972	Jan. 1973
Projections of the Population	Irregular	1967 to 1976	Feb. 1969

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STATISTICAL PUBLICATIONS—continued

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MIMEOGRAPHED PUBLICATIONS—continued

Subject	Frequency of issue	Latest issue at 28 February 1973	Month of issue
PRIMARY PRODUCTION—			
Agricultural and Pastoral Statistics (general summary)	Annually	1971-72	Nov. 1972
Agricultural Census: Principal Statistics (preliminary statement)	Annually	1971-72	Aug. 1972
Apples and Pears in Cool Stores	Monthly	Jan. 1973	Feb. 1973
Artificial Fertiliser Used on Rural Holdings (a)	Annually	1971-72	Dec. 1972
Bee Keeping Statistics	Annually	1971-72	Nov. 1972
Catch of Fish and Crustaceans	Monthly	July 1972	Feb. 1973
Cattle and Pigs (a)	Annually	1972	Sept. 1972
Cereal Crop Forecast	Annually	1972-73	Oct. 1972
Chicks Hatched and Poultry Slaughtered	Monthly	Dec. 1972	Feb. 1973
Ewe Matings for Lambing	Triennially	1969 and 1970	Feb. 1971
Fisheries	Annually	1970-71	Aug. 1972
Fruit (a)	Annually	1971-72	Jan. 1973
Grain and Other Crops and Cereal Varieties (a)	Annually	1971-72	Dec. 1972
Grain and Seed Harvesters on Rural Holdings (a)	Triennially	1970	Mar. 1971
Hay, Green Feed and Silage (a)	Annually	1971-72	Jan. 1973
Irrigation (a)	Annually	1971-72	Jan. 1973
Livestock Slaughtered and Meat Produced	Annually	1971-72	Dec. 1972
Machinery on Rural Holdings (a)	Annually	1972	Dec. 1972
Mineral Exploration	Annually	1970-71	July 1972
Nursery and Flower Production Statistics (†)	Annually	1971-72	Feb. 1973
Pasture Seed (a)	Annually	1971-72	Jan. 1973
Rock Lobsters Held in Cold Stores and Exported	Monthly	Dec. 1972	Jan. 1973
Rural Land Utilisation (a)	Annually	1971-72	Jan. 1973
Sheep, Lambing and Wool Clip (a)	Annually	1971-72	Sept. 1972
Tractors on Rural Holdings (a)	Triennially	1969	Mar. 1970
Value of Primary Production (excluding Mining and Quarrying) (preliminary statement)	Annually	1971-72	Dec. 1972
Vegetables (a)	Annually	1971-72	Jan. 1973
Wheat for Grain (a)	Annually	1971-72	Aug. 1972
SECONDARY PRODUCTION—			
Economic Censuses—Manufacturing Establishments and Electricity and Gas Establishments: Summary of Operations by Industry Class (†)	Annually	1968-69 and 1969-70	Jan. 1973
TRADE (EXTERNAL)—			
External Trade (Overseas and Interstate)	Annually	1970-71	Dec. 1971
Interstate Trade	Annually	1971-72	Oct. 1972
Quarterly Summary of Overseas Trade Statistics	Quarterly	To Sept. 1972	Jan. 1973
TRADE (INTERNAL)—			
Wholesale Sales and Stocks of Wine and Brandy	Annually	1970-71 and 1971-72	Oct. 1972
GENERAL—			
Monthly Statistical Summary	Monthly	Feb. 1973	Feb. 1973

(a) Includes statistics for individual local government areas.

(†) New issue.

NOTE. In addition to the preceding publications, a number of bulletins which deal exclusively with this State are produced by the Commonwealth Statistician, Canberra who also issues many publications which contain particulars for Western Australia as a component of Australian totals. A complete list of all publications currently issued by the Central and the various State Offices of this Bureau appears in 'Publications of the Commonwealth Bureau of Census and Statistics' issued by the Commonwealth Statistician, copies of which are available free of charge from the Western Australian Office at the address shown on page 26.

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